Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for obtaining a cyclic motion within a series of images depicting a moving object subject to composite motion containing a cyclic motion component having a cyclic period and a non-cyclic consistent component of a lower frequency than the cyclic motion component, the method comprising:
   (a) computing the composite motion between at least one pair of successive images, the composite motion represented by at least one vector;
   (b) computing the non-cyclic consistent component as ~~the~~ an integral of the composite motion over the cyclic period;
   (c) computing a proportional part of the non cyclic consistent component for each of the at least one pair of successive images; and
   (d) for each of the at least one pair of successive images, subtracting the proportional part of the non-cyclic consistent component from the composite motion so as to obtain the cyclic motion component,

   wherein the series of images comprises an at least one series of N images acquired during a cyclic period, each frame having an index i within the cyclic period, $i=1...N$, and wherein the proportional part of the non cyclic component for each of the at least one pair of successive images $i-1$ and i is determined by dividing the non cyclic component by N and multiplying by $i-1$.

2. (Previously presented) The method according to claim 1, wherein the cyclic period of the cyclic motion component is computed using spectral analysis.

3. (Previously presented) The method according to claim 1, wherein the composite motion is determined by optical flow.

4. (Previously presented) The method according to claim 1, wherein the composite motion is determined using phase correlation of said images.

5. (Previously presented) The method according to claim 1, where cyclic motion values are used for evaluating performance of a body organ.

6. (Original) The method according to claim 4, when used in a cardiac application to evaluate heart performance.

7. (Original) The method according to claim 6, when used for Ejection Fraction analysis.

8. (Original) The method according to claim 6, when used for Left Ventricular analysis.

9. (Original) The method according to claim 6, when used for Wall Motion analysis.

10. (Previously presented) A method for identifying an image depicting an event associated with cyclic motion, the method comprising:
    (a) computing the cyclic motion according to the method of claim 1;
    (b) using a graphical representation of the cyclic motion to identify all images matching said event; and
    (c) selecting one of said images.

11. (Original) The method according to claim 10, wherein the selected image is closest to a predetermined approximation.

12. (Previously presented) The method according to claim 10, wherein the event is least motion.

13. (Original) The method according to claim 12, for selecting angiographic images to participate in three-dimensional reconstruction of coronary vessels.

14. (Currently amended) The method according to claim 13, including deriving cycle period and approximation for least-motion image from an analysis of an electro cardiogram (ECG) signal .

15. (Previously presented) The method according to claim 13, including distinguishing the end-diastole instance from the end-systole instance by the state of coronary vessel – maximal spreading versus minimal spreading, respectively.

16. (Currently amended) The method according to any one of claim 1 when used for selecting optimal image or images for Quantitative Coronary (QCA) analysis.

17. (Currently amended) The method according to any one of claim 1 when used for selecting optimal image or images for Intra Vascular Ultra Sound (IVUS) analysis.

18. (Currently amended) The method according to any one of claim 1 when used for selecting optimal image or images for Left Ventricular (LVA) analysis.

19. (Previously presented) The method according to claim 1 when used for selecting optimal image or images for Wall Motion analysis.

20. (Currently amended) The method according to any one of claim 1 when used for Computerized Tomography (CT) reconstruction.

21. (Currently amended) The method according to any one of claim 1 when used for Magnetic Resonance Imaging (MRI) reconstruction.

22. (Currently amended) The method according to any one of claim 1 when used for Positron Emission Tomography (PET) reconstruction.

23. (Cancelled)

24. (Currently amended) A system for obtaining a cyclic motion within a series of images depicting a moving object subject to composite motion containing a cyclic motion component having a cyclic period and a non-cyclic consistent component of a lower frequency than the cyclic motion component, the system comprising:

a composite motion unit for computing the composite motion between at least one pair of successive images, the composite motion represented by at least one vector;

a non-cyclic motion unit for computing the non-cyclic consistent component as ~~the~~ an integral of the composite motion over the cyclic period;

a proportional part unit for computing a proportional part of the non cyclic motion component for each of the at least one pair of successive images; and

a subtraction unit for subtracting the proportional part of the non-cyclic consistent component from the composite motion occurring between each of the at least one pair of successive images, so as to obtain the cyclic motion component,

wherein the series of images comprises an at least one series of N images acquired during a cyclic period, each frame having an index i within the cyclic period, $i=1...N$, and wherein the proportional part of the non cyclic component for each of the at least one pair of successive

images *i-1* and *i* is determined by dividing the non cyclic component by *N* and multiplying by *i-1*.

25. (Cancelled)

26. (Currently amended) A system for identifying an image depicting an event associated with cyclic motion, the system comprising:

~~a~~ the cyclic motion ~~unit~~ system of claim 24 for computing the cyclic motion and deriving data representative of a graphical representation thereof,

an image identification unit responsive to said data representative of a graphical representation of the cyclic motion for identifying all images matching said event, and

an image selection unit for selecting one of said images.

27. (Previously presented)The system according to claim 26, wherein the image identification unit is adapted to identify minimal cyclic motion.

28. (Previously presented)The system according to claim 27, wherein the image selection unit is adapted to select angiographic images to participate in three-dimensional reconstruction of coronary vessels.

29. (Currently amended) The system according to claim 28, including an Electro Cardiogram (ECG) analyzer for deriving cycle period and approximation for least-motion image from an analysis of an ECG signal.

30. (Previously presented) The system according to claim 28, including an image processing unit coupled to the image selection unit for distinguishing the end-diastole instance from the end-systole instance by the state of coronary vessel – maximal spreading versus minimal spreading, respectively.